

IRON SHIP

No. 8103 Survey held at Port Glasgow and Greenock Date, First Survey 11th Apr 1881 Last Survey 14th Dec 1881

On the S. S. "Tolani" Master Jno Adair

Official Number

Tonnage under Tonnage Deck	1475.26
Ditto of Third, Spar, or Awning Deck	
Ditto of Poop, or Raised Or. Dk.	12.75
Ditto of Houses on Deck	33.41
Ditto of Forecastle Deck	21.96
Gross Tonnage	1543.38
Less Crew Space	68.13
Less Engine Room	493.88
Register Tonnage as out on Beam	981.37

ONE, OR TWO DECKED, THREE DECKED VESSEL, SPAR, OR AWNING DECKED VESSEL	
Half Breadth (moulded)	16.958
Depth from upper part of Keel to top of Upper Deck Beams	22.25
Girth of Half Midship Frame (as per Rule)	36.6
1st Number	77.808
1st Number, if a 3-Decked Vessel deduct 7 feet	7
Length	263.58
2nd Number	188.61
Proportions— Breadths to Length	7.74
Depths to Length—Upper Deck to Keel	10.84
Main Deck ditto	15.5

Built at Port Glasgow
 When built 1881 Launched 10th Nov 81
 By whom built Messrs Murchison & Murray
 Owners Messrs Raeburn & Vetch
 Residence Kenfield St. Glasgow
 Port belonging to Glasgow
 Destined Voyage Cape via London
 If Surveyed while Building, Afloat, or in Dry Dock, While Building and Afloat.

ENGT ^H on deck as per Rule	263	7	BREADTH—Moulded	33	11	DEPTH top of Floors to Upper Deck Beams	22	5/2	Power of Engines	157	Horse	157	N ^o . of Decks with flat laid	2	N ^o . of Tiers of Beams	3
---------------------------------------	-----	---	-----------------	----	----	---	----	-----	------------------	-----	-------	-----	--	---	------------------------------------	---

Dimensions of Ship per Register, length, 264.4 breadth, 34.0 depth, 22.4

	Inches in Ship	Inches per Rule		Inches in Ship	Inches per Rule
KEEL, depth and thickness	9 1/4 x 2 1/2	9 x 2 1/2	PLATES in Garboard Strakes, br'dth & thickness	36	11
LM, moulding and thickness	8 1/2 x 2 1/2	8 1/2 x 2 1/2	" From Garboard to upper part of Bilges	10	10
ERN-POST for Rudder do. do.	8 1/2 x 5	8 1/2 x 5	" Of d'bling at Bilge, or increased thickness, and length applied		
" for Propeller	8 1/2 x 5	8 1/2 x 5	" From up. prt of Bilge to lr. edge of Sh'rstrake	10	10
Distance of Frames from moulding edge to moulding edge, all fore and aft	23 3/4 to 23 abuts. 24	(Class 100A.)	" Main Sheerstrake, breadth and thickness	40	12
AMES, Angle Iron, for 2/3 length amidships	4 1/2 3 7	4 1/2 3 7	" Of d'bling at Sh'stk. & lng. applied		
do. for 1/2 at each end	" " 6 " "	" " 6 " "	" From M'n. to Upr. or Spar Dk. Sh'rstrake		
REVERSED FRAMES, Angle Iron	3 3 7	3 3 7	" Up. or Spar Dk Sh'rstrake, br'dth & thickness	16 3/4 x 11-12/16	as stated
DOORS, depth and thickness of Floor Plate	2 1/2 x 9	2 1/2 x 9	Butt Straps to outside plating, breadth & thickness	1 1/2 x 12-1/16	5 ft spaces
do mid line for half length amidships	5 ft spaces 10	10	Lengths of Plating	4 ft spaces	5 ft spaces
do thickness at the ends of vessel	" " 7	7	Shifts of Plating, and Stringers	at least 2 ft spaces	2 " "
do depth at 3/4 the half-bdth. as per Rule	11	10 3/4	Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	3 8	9
do height extended at the Bilges	43	43	Angle Iron on ditto	4 x 4 x 9/16	4 x 4 x 9/16
AMES, Upper, Spar, or Awning Deck	5 1/2 3 8	5 1/2 3 8	Tie Plates fore and aft, outside Hatchways	13	10
do. Angle Iron, Plate or Tee Bulb Iron	Built beams ahead of Hatchways		Diagonal Tie Plates on Beams No. of Pairs		
do. Angle Iron on Upper edge	23 3/4 to 23	23 3/4	Flat of Up., Spar, or Awning Dk.*	Iron beam 6/16 thick fore & aft	
Average space	23 3/4 to 23	23 3/4	How fastened to Beams	6/16 for 1/2 length	
AMES, Main, or Middle Deck	8 x 8	8 x 8	Stringer Plate on ends of Main or Middle Deck	50	10
do. Angle Iron, Plate or Tee Bulb Iron	3 3 6	3 3 6	Beams, breadth and thickness		
do. Angle Iron on Upper Edge	4 7/8 10 46	4 8	Is the Stringer Plate attached to the outside plating?	yes.	
Average space	4 7/8 10 46	4 8	Angle Irons on ditto, No. 3	2-4 x 4 x 9/16 and 4 x 4 x 9/16	
AMES, Lower Deck	9 x 9	9 x 9	Tie Plates, outside Hatchways	1-3 x 3 x 6/16	13 10
do. Angle Iron, Plate or Tee Bulb Iron	4 3/2 8	4 3/2 8	Diagonal Tie Plates on Beams, No. of pairs		
do. Angle Iron on Upper Edge	on every 12 1/2 ft frames. 12 1/2 ft		Flat of Middle Deck* do. do.	3 1/2 P. Pairs 3 1/2	
Average space	on every 12 1/2 ft frames. 12 1/2 ft		How fastened to Beams	By gals? Sew bolts. 5/16	8
AMES, Hold, or Orlop			Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	33	9
do. Angle Iron, Plate or Tee Bulb Iron			Is the Stringer Plate attached to the outside plating?	yes.	
do. Angle Iron on Upper Edge			Angle Irons on ditto, No. 3	1-5 x 4 x 9/16 and 2-4 x 4 x 9/16	4 x 4 x 9/16
Average space			Stringer or Tie Plates, outside Hatchways		
KEELSONS Centre line, single or double plate, box, or Intercostal, Plates	17 x 12	17 x 12	Flat of Lower Deck*		
" Rider Plate	12 x 12	10 3/4 x 12			
" Bulb Plate to Intercostal Keelson					
" Angle Irons	5 4 9	5 4 9	Ceiling betwixt Decks, thickness and material	1 1/2 Pine Sparring	
" Double Angle Iron Side Keelson	5 4 9	5 4 9	" in hold do. do.	2 1/2 Pine 2 1/2	
" Side Intercostal Plate		8	Main piece of Rudder, diameter at head	8 1/4	6 1/4
do. Angle Irons			do. at heel	3 1/4	3 1/4
" Attached to outside plating with angle iron	3 3 7	3 3 7	Can the Rudder be unshipped afloat?	yes.	
BILGE Angle Irons	5 4 9	5 4 9	Bulkheads No. 4 No. per Rule	4	
" do. Bulb Iron			" Thickness of	6/16	6/16
" do. Intercostal plates riveted to plating for 3/5 length		8	" Height up	as on app? drawing	
BILGE STRINGER Angle Irons	5 4 9	5 4 9	" How secured to sides of ship	between double frames.	
Intercostal plates riveted to plating for 1/2 length		8	" Size of Vertical Angle Irons	3 x 3 x 7/16 and distance apart 30 ins.	
SIDE STRINGER Angle Irons			" Are the outside Plates doubled two spaces of Frames in length?	yes.	

The FRAMES extend in one length from Keel to fore-castle, Copper & Bridge St. plates Riveted through plates with 7/8 in. Rivets, about 7 apart.

The REVERSED ANGLE IRONS on floors and frames extend from middle line to upper and middle dk and to stringers alternately* in way of fore-castle the alternate res frs extend to fore-castle St. And butts properly shifted? yes.

KEELSONS. Are the various lengths of Plates and Angle Irons properly connected? yes.

PLATING. Garboard, double riveted to Keel, with rivets 1 1/8 in. diameter, averaging 5 5/8 ins. from centre to centre.

" Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 7/8 in. diameter, averaging 3 3/8 ins. from centre to centre.

" Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 7/8 in. diameter averaging 3 1/2 ins. from centre to centre.

" Butts of 3 Strakes at Bilge for 1/2 length, treble riveted with Butt Straps 1/16 thicker than the plates they connect.

" Edges from Bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets 7/8 in. diameter, averaging 3 3/8 ins. from cr. to cr.

" Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 7/8 in. diameter, averaging 3 1/2 ins. from cr. to cr.

" Edges of Main Sheerstrake, double or single riveted. Upper Sheerstrake, double or single riveted.

" Butts of Main Sheerstrake, treble riveted for 1/2 length amidships. Butts of Upper or Spar Sheerstrake, treble riveted 1/2 length amidships.

" Butts of Main Stringer Plate, treble riveted for 1/2 length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for 1/2 length.

" Breadth of laps of plating in double riveting 5 1/4 Breadth of laps of plating in single riveting

Butt Straps of Keelsons, Stringer and Tie Plates, treble or double Riveted? as reqd. No. of Breasthooks, 3 Crutches, 3

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? good

Manufacturer's name or trade mark, Angles from Mossend & Clefthon Iron Co. and Plates from Glasgow Iron Co.

The above is a correct description. Builder's Signature, Murchison & Murray Surveyor's Signature, J. L. Dunnet

Form No. 1 for Iron Ships—4000—24/5/81

Workmanship. Are the butts of plating planed or otherwise fitted? *Planed where possible*
 Do the edges of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies? *yes.*
 Are the fillings between the ribs and plates solid single pieces? *yes.*
 Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? *yes.*
 Are the rivet holes well and sufficiently countersunk in the plate and punched from the faying surfaces? *yes.*
 Do any rivets break into or through the seams or butts of the plating? *In a few cases at the butts only.*

Masts, Bowsprit, Yards, &c., are *Iron & Wood* in *good* condition, and sufficient in size and length. If of Iron or Steel give Scantling and if stamped with Maker's name. *yes.*
 State also Length and Diameter of Lower Masts and Bowsprit *Rig 2 Masted Topsail Schooner*

Fore mast. Length Extreme. *81-6* - at Deck *25 x 6 1/4* - at Head *16 1/2 x 5 1/4* - at Heel *18 1/2 x 5 1/4*.
 Main - - - - - *80-0* - - - - - *23 1/2 x 6 1/4* - - - - - *16 x 5 1/4* - - - - - *17 1/2 x 5 1/4*.
and riveted as required by the Rules.

No.	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	Inches per Rule.	Machine where Tested & Suprntd.	ANCHORS.					
								No.	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.		
	Chain	30 1/2	13.5	1 1/4	51.5	270-1 1/4	16/9/81	Bower Anchors	6339	28.2.0	27.10.0	27 3/4	16/9/81
	Fore Sails,	(State Machine where Tested, Date, or No. of Certificate, Name of Superintendent.)	13.5	1 1/4	51.5				6340	27.2.14	26.16.0	Call	17/9/81
	Fore Top Sails,	Iron Stream Chain	7 1/2	1 1/4	20.6	75-1 1/4	17/9/81		6335	24.0.15	24.1.0	Weight	16/9/81
	Fore Topmast Stay Sails,	or Steel Wire or Hempen Strm Cable							Total	80.0.22		79 Cwt	
	Main Sails,	Towline, Hemp.	90	11		90-11		Stream Anchor	6338	8.3.4	10.18.21	8 3/4	16/9/81
	Main Top Sails,	or Steel Wire	90	3 1/2		Steel wire Hawser		Kedge	6337	4.2.21	6.18.0	4 1/2	16/9/81
	and -	Hawser	90	10		90-9		2nd Kedge	6336	2.1.21	4.19.1	2 1/4	16/9/81
		Warp	90	7		90-7							
		quality good	90	4 1/2		and others.							

Standing and Running Rigging *Wire & Hempen* sufficient in size and *good* in quality. She has *one Life Long* Boat and *3 other boats*
 The Windlass is *Emerson & Walker* Capstan *✓* and Rudder *efficient* Pumps *efficient*

Engine Room Skylights.—How constructed? *Solid teak framing* How secured in ordinary weather? *by bars and fly net*
 What arrangements for deadlights in bad weather? *none req'd. Skylight on 8th casing & fitted with bar guards.*

Coal Bunker Openings.—How constructed? *plates and angles* How are lids secured? *Spaced & lashed* Height above deck? *18 ins.*
by means of usual rig.

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea?
5 pairs of scuppers; no freeing ports required - no bulwark but guard rails.

Cargo Hatchways.—How formed? *Plate Comings riveted to beams and fore & aft carlings.*
 State size *Main Hatch 23-9 x 14-0* Forehatch *11-8 x 9-0* Quarterhatch *23-3 x 12-0*

If of extraordinary size, state how framed and secured? *13 doubling plate on iron deck at main & Q. hatchways and 2 full*
 What arrangement for shifting beams? *double angles on Comings.* *decks not plated*
each also shifting for
and afters.

Hatches. If strong and efficient? *yes and 3 inches solid.*

Order for Special Survey No. *1078*
 Date *22 Feb. 1881*
 Order for Ordinary Survey No. *✓*
 Date *✓*
 No. *57* in builder's yard.

- DATES OF SURVEYS held while building as per Section 18.
- 1st. On the several parts of the frame, when in place, and before the plating was wrought
 - 2nd. On the plating during the process of riveting
 - 3rd. When the beams were in and fastened, and before the decks were laid....
 - 4th. When the ship was complete, and before the plating was finally coated or cemented..
 - 5th. After the ship was launched and equipped

General Remarks (State quality of workmanship, &c.) *Workmanship and Materials good.*
This iron screw steamer has been constructed in accordance with the Rules and the accompanying tracings 4 in 16° which were submitted and approved, please see Sect 20 Letters dated 21st Feb and 24th March 1881.

Is constructed with a sunk fore-castle and a short house with open passages
She is to carry water ballast in deep tank forward, and in after hold, each of these compartments tested by a head of water as required by the Rules and found tight.

State if *three decked vessel, or if open, or covering deck;* and the lengths of *16ft* bridge, *Sunk 35ft* fore-castle, *62ft* quarter-deck. (If double bottom, state particulars on separate form)
 How are the surfaces preserved from oxidation? Inside *Cemented to upper part of bilge and coated with paint above.* Outside *Coated with paint.*

I am of opinion this Vessel should be Classed ** 100 A.1.*
 The amount of the Entry Fee ... £ 5 : : : is received by me,
 Special ... £ 61 : 17 : 6 *14/12/1881*
 Certificate ... *Gratis:*
 (to be sent as per margin).
 (Travelling Expenses, if any, £)

Committee's Minute *Tuesday December 20th 1881*
 Character assigned *100 A.1*
 Surveyor to Lloyd's Register of British and Foreign Shipping
This vessel appears to be eligible to be classed 100 A.1 as required by the Rules.
20th Dec 1881
non dealt
19/12/81

The Surveyors are requested not to write on or below the space for Committee's Minute.